

ESP FOCUS

Is Your Place Safe?



Identify Your Building's Potential Weaknesses and Begin to Fix Them

Buildings are built to withstand the downward pull of gravity, yet earthquakes shake a building in all directions – up and down, but most of all, sideways. There are several common issues that can limit a building's ability to withstand this sideways shaking.

Common Building Problems

Most houses are not as safe as they could be. The list on the next page presents some common structural problems

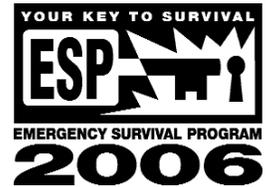
and how to recognize them. Once you determine if your building has one or more of these problems, prioritize how and when to fix them, and get started. (If you are a renter, see the reverse side of this Focus Sheet.) For help, refer to the websites listed below or consult with a professional contractor or engineer.

Myth—Don't Be Fooled!

"We have good building codes so we must have good buildings." The best building codes in the world do nothing for buildings built before that code was enacted. While codes have been updated, the older buildings are still in place. Fixing problems in older buildings—retrofitting is the responsibility of the building's owner.

Check These Websites

- www.earthquakecountry.info/roots (Earthquake Country Alliance/Southern California Earthquake Center)
- www.NFPA.org (National Fire Protection Association)
- www.redcross.org (American Red Cross)
- www.seaoc.org (Structural Engineers Association of California)
- www.seismic.ca.gov (California Seismic Safety Commission)

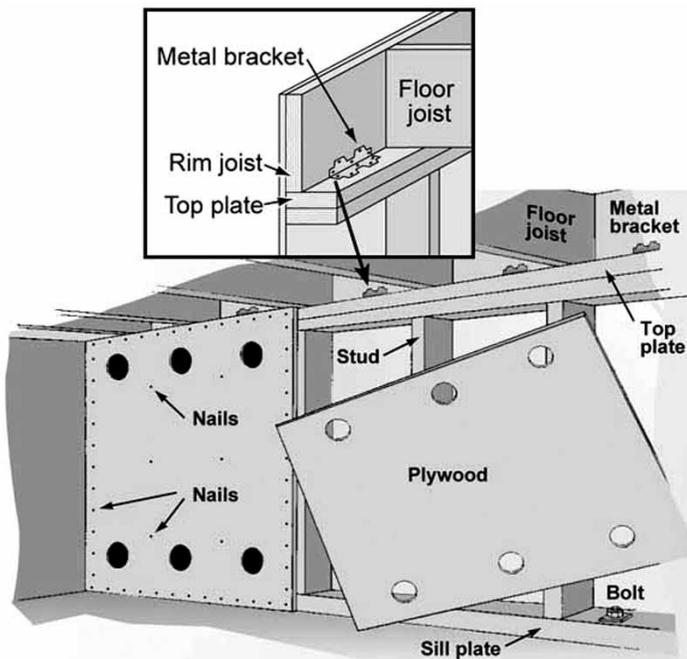


Follow the seven steps to earthquake safety from *Putting Down Roots in Earthquake Country* - www.earthquakecountry.info/roots.

BEFORE: ----- DURING: ----- AFTER: -----

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|--|-------------------------------------|--|--|---|--|---|
| #1
Identify potential hazards in your home & begin to fix them | #2
Create a disaster plan | #3
Create disaster supplies kits | #4
Identify your building's potential weaknesses & begin to fix them | #5
Protect yourself during earthquake shaking | #6
Check for injuries and damage | #7
When safe, follow your disaster plan |
|--|-------------------------------------|--|--|---|--|---|

M A Y



Properly attached plywood sheets strengthen weak cripple wall.

Inadequate foundations. Look under your house at your foundation. If the foundation is damaged or built in the “pier and post” style, consult a contractor or engineer about replacing it with a continuous perimeter foundation. Look for bolts in the mudsills. They should be no more than 1.8 meters (6 feet) apart in a single story and 1.2 meters (4 feet) apart in a multistory building. Adding bolts to unsecured houses is one of the most important steps toward earthquake safety. This can be done by a contractor or by someone moderately adept at home maintenance.

Unbraced cripple walls. Homes with a crawl space should have panels of plywood connecting the studs of the short “cripple” walls (see figure). You or a contractor can strengthen the cripple walls relatively inexpensively.

Soft first stories. Look for larger openings in the lower floor, such as a garage door or a hillside house built on stilts. Consult a professional to determine if your building is adequately braced.

Unreinforced masonry. All masonry (brick buildings) should be reinforced. Some communities have a program for retrofitting buildings made of unreinforced masonry. If your house has masonry as a structural element consult a structural engineer to find what can be done. Inadequately braced chimneys are a more common problem. Consult a professional to determine if your chimney is safe.

Fire Safety. Conduct an interior and exterior fire safety hazard hunt of your home.

- Outside Your Home.** Create a safety zone or “fire break” (100 foot clearance) around your home. Flammable plants, woodpiles, and debris should be kept as far away from the exterior walls of the home as possible.

- Inside Your Home.** Check your electrical cords to make sure they are in good condition, without cracks or frayed areas. Avoid running extension cords across doorways or under carpets. Working smoke alarms are essential in every household. Test your smoke alarms once a month and replace the batteries once a year.

For Those Who Rent

As a renter, you have less control over the structural integrity of your building, but you do control which building you rent. Remember these points as you look for rental housing.

- Apartment buildings can have many of the same structural issues as houses.
- Structures made of unreinforced masonry (such as brick) and with soft first stories (such as parking space openings) have caused great loss of life in earthquakes.
- Foundation and cripple wall failures have led to expensive damage but less loss of life.
- Objects attached to the sides of buildings, such as staircases and balconies, have often broken off in earthquakes, injuring those below.

Ask your landlord these questions:

- What retrofitting has been done on this building?
- Have the water heaters been strapped to the wall studs?
- Can I secure furniture to the walls?

If You Live in a Mobile Home

Look under your home. If you only see a metal or wood “skirt” on the outside with concrete blocks or steel tripods or jacks supporting your home, you need to have an “engineered tie-down system” or an “earthquake-resistant bracing system” (ERBS) installed.

An ERBS should have a label on the bracing that says, “Complies with the California Administrative Code, Title 25, Chapter 2, Article 7.5.”

Adapted from Putting Down Roots in Earthquake Country, published by the Southern California Earthquake Center and available online at www.earthquakecountry.info/roots.



This focus sheet is produced as part of the Emergency Survival Program (ESP). ESP is an awareness campaign designed to increase home, neighborhood, business and school emergency preparedness. ESP was developed by the County of Los Angeles. The California Governor’s Office of Emergency Services (OES) and representatives from Contra Costa, Imperial, Inyo, Kern, Los Angeles, Marin, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura counties; Southern California Edison; the Southern California Earthquake Center and the American Red Cross assist in the development of campaign materials and coordination of the campaign.